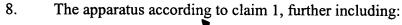
## **CLAIMS**

- 1. A apparatus comprising:
- a substrate;
- a plurality of position sensing devices located on the substrate for detecting the presence of an object;
- a plurality of groups of the position sensing devices, each group being composed of a plurality of sensing devices and located at a selected, respective position on the substrate;

an electronic logic circuit coupled to each of the groups for sensing whether a human appendage has been placed adjacent the respective group.

- 2. The apparatus according to claim 1 wherein there the plurality of groups includes at least 3 groups.
- 3. The apparatus according to claim 2 wherein the groups are positioned adjacent each other organized in a grid having rows and columns.
- 4. The apparatus according to claim 2 wherein the groups and positioned with a first group surrounding a second group and the second group surrounding a third group.
- 5. The apparatus according to claim 4 wherein the groups are circular in shape.
- 6. The apparatus according to claim 1, further including a circuit for sensing an initial touch location and a last touch location.
- 7. The apparatus according to claim 1, further including a circuit for sensing the location of a human appendage on the surface at a first time and sensing the location the human appendage at a second time, after the first time.



- a housing that supports the substrate;
- a power source within the housing; and
- a transmitter within the housing.
- 9. The apparatus according to claim 8, further including:
- a fingerprint identification circuit within the housing including a fingerprint sensing array, a memory for storing reference fingerprint patterns and a circuit to compare a fingerprint sensed by the array with a reference fingerprint pattern stored in the memory.
  - 10. An apparatus for remotely controlling automobile functions comprising: a housing;
  - a semiconductor substrate coupled to and supported by the housing;
  - a power source within the housing;
  - a transmitter within the housing;
- a plurality of position sensing devices positioned within the semiconductor, the sensing devices being organized into a plurality of segmented groups; and
- a circuit coupled to each group to sense whether a human appendage is adjacent the group.
  - 11. The apparatus according to claim 10, further including:
- a finger print identification circuit coupled to the semiconductor substrate for sensing the identity of the a fingerprint placed thereon.
- 12. The apparatus according to claim 11 wherein the fingerprint sensor circuit includes:
  - a memory for storing a plurality of reference fingerprint sensor patterns;
- a comparison circuit for comparing a pattern of a fingerprint placed on the substrate with a fingerprint pattern stored in memory; and





an output circuit that outputs an indication of a match between an input fingerprint pattern and a fingerprint pattern stored in the memory.

- 13. The apparatus according to claim 12, further including an enable circuit coupled to output circuit for enabling the transmitter to transmit selected commands only after a fingerprint input pattern has matched a reference fingerprint pattern.
  - 14. The apparatus according to claim 10, further including: an automobile
- a receiver circuit coupled to the automobile for receiving input from the transmitter.
  - 15. A method of sensing input from a finger of a user comprising: sensing a first touch location on a substrate;

sensing a second touch location spaced from the first touch location on a substrate;

comparing the input sequence of the first and second touch locations to a set of reference sequences stored in memory;

outputting the identity of a match between the input sequence and the reference sequence;

performing a pre-programmed function based the identity of the match.

16. The method according to claim 15, further including: receiving a sample fingerprint pattern on the substrate;

comparing the sample fingerprint pattern to a plurality of stored reference patterns;

outputting a signal indicating a match between the sample input pattern and a stored pattern; and

patterns;

performing the pre-programmed function only after a match has been found between the input fingerprint pattern and a reference pattern.

17. The method according to claim 15, further including: receiving a sample fingerprint pattern on the substrate; comparing the sample fingerprint pattern to a plurality of stored reference

outputting a signal indicating whether or not there is a match between the sample input pattern and a stored pattern; and

permitting the performing of selected pre-programmed functions before a match has been found between the input fingerprint pattern and a reference pattern.

- 18. The method according to any one of claims 16 or 17, further including: transmitting a code representing the function to be performed from a location adjacent the substrate to an automobile to perform selected functions at the automobile.
- 19. The method according to claim 18 wherein one of the functions performed is to lock the doors of the automobile.
- 20. The method according to claim 19 wherein the function of locking the doors is permitted to be performed before a match is found.
- 21. The method according to claim 18 wherein one of the functions performed is to unlock the doors of the automobile.
  - 22. The method according to claim 15, further including: sensing if a first touch occurred in a bottom portion of the substrate; and sending if a last touch occurred in a top portion of the substrate.

